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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/566,138	08/14/2006	Reinhard Strey	100725-51 KGB	1943
27384 7590 09/21/2009 NORRIS, MCLAUGHLIN & MARCUS, PA 875 THIRD AVENUE 18TH FLOOR NEW YORK, NY 10022				
EXAMINER WANG, CHUN CHENG				
ART UNIT		PAPER NUMBER		
1796				
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/566,138

**Applicant(s)**

STREY ET AL.

**Examiner**

Chun-Cheng Wang

**Art Unit**

1796

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 10 June 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-15 and 17-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 and 17-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-8508)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_
- Paper No(s)/Mail Date \_\_\_\_\_

**DETAILED ACTION**

1. This office action is in response to the Amendment filed on 08/26/2008. Claim 16 have been cancelled. Claims 1-15 and 17-19 are now pending.
2. The objections and rejections not addressed below are deemed withdrawn.
3. The text of those sections of Title 35, U.S. Code not included in this section can be found in a prior Office Action.

***Claim Rejections - 35 USC § 102***

4. Claims 1-9, 14-15 and 18 are rejected under 35 U.S.C. 102(e) as being anticipated by Varadaraj et al. (US 2003/0170512).

The rejections stand as per the reasons set forth in paragraph 9 of the previous Office Action, incorporated herein by reference.

5. Claims 1-9, 15 and 18 are rejected under 35 U.S.C. 102(e) as being anticipated by Varadaraj et al. (US 2003/0165722).

The rejections stand as per the reasons set forth in paragraph 10 of the previous Office Action, incorporated herein by reference.

6. Claims 1-9, 15 and 17-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Jakobs et al. ("Amphiphilic Block Copolymers as Efficiency Boosters for Microemulsions", Langmuir 1999, 15, 6707-6711).

The rejections stand as per the reasons set forth in paragraph 11 of the previous Office Action, incorporated herein by reference.

***Claim Rejections - 35 USC § 103***

7. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Varadaraj et al. (US 2003/0170512) in view of Allgaier et al. (US 6677293 as English translation of WO 00012660).

The rejections stand as per the reasons set forth in paragraph 14 of the previous Office Action, incorporated herein by reference.

8. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Varadaraj et al. (US 2003/0170512) in view of Steinmann (US 2003/3307484).

The rejections stand as per the reasons set forth in paragraph 15 of the previous Office Action, incorporated herein by reference.

9. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Varadaraj et al. (US 2003/0170512) in view of Filippini et al. (US 2002/0088167).

The rejections stand as per the reasons set forth in paragraph 16 of the previous Office Action, incorporated herein by reference.

10. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Varadaraj et al. (US 2003/0170512) in view of Filippini et al. (US 2002/0088167) and Steinmann (US 6017368).

The rejections stand as per the reasons set forth in paragraph 17 of the previous Office Action, incorporated herein by reference.

11. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Varadaraj et al. (US 2003/0170512).

The rejections stand as per the reasons set forth in paragraph 18 of the previous Office Action, incorporated herein by reference.

12. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jakobs et al. ("Amphiphilic Block Copolymers as Efficiency Boosters for Microemulsions", Langmuir 1999, 15, 6707-6711).

The rejections stand as per the reasons set forth in paragraph 19 of the previous Office Action, incorporated herein by reference.

#### ***Response to Arguments***

13. Applicant's arguments filed 06/10/2009 have been fully considered but they are not persuasive.

14. Regarding Claims 1-9, 14, 15 and 18 were rejected under 35 USC § 102(e) as being anticipated by Varadaraj et al., US 2003/0170512, Applicants alleged: The end product (of Varadaraj et al.) after emulgation shows the characteristics of a typical instable macro emulsion, the sizes of the structures are in the micrometer range and greater, which is obvious by the detection method via direct optical microscopic measurement (see paragraphs [0045], [0048]). Thus, both emulsions as well as the mixtures of both emulsions are macro emulsions which separate within maximum 72 h ... the continuous emulsion of Varadaraj I is ... not the same as the bicontinuous one-phase microemulsion of the present invention. The microemulsion of the present invention is a thermodynamically stable, nanostructured and single-phase mixture. "Thermodynamically stable" within the meaning of the present invention refers to an energetic preferred state which is stable for an unlimited period of time, which means the single-phase

mixture does not separate in single phases. The size of the continuous water and hydrocarbon phases is in the nanometer range and these structures are not visible under the microscope.

Response: Although applicants alleged the term “Thermodynamically stable” is referring to be stable for an unlimited period of time, the specification does not disclose the definition of the term nor does it show stability data. Applicants do not claim the size of the microemulsion. Applicants claim bicontinuous one-phase microemulsion which is “simultaneously comprises a continuous aqueous phase and a continuous hydrophobic phase” (See instant claim 1). Varadaraj ‘0512 disclose a bicontinuous emulsion exhibits regions of water continuity and regions of hydrocarbon continuity. A bicontinuous emulsion is by character a micro-heterogeneous biphasic fluid [0016]. Varadaraj ‘0512 disclose compositions showing spontaneous emulsification (e.g. thermodynamically stable) of water and hydrocarbon phases by surfactants [0041]. The bicontinuous emulsion is stable for 72 hours (EXAMPLE 2). The bicontinuous emulsion can be characterized by optical microscope with the aid of dyes to color the water and hydrocarbon; and measurement of conductivity of the microemulsion. The emulsion also exhibit thermodynamic stability of cooled to -54°C to be solidified and when thawed or heated to +59°C the emulsion liquefied and retained their stability and bicontinuous nature (EXAMPLE 2).

15. Regarding Claims 1-9, 15 and 18 rejected under 35 U.S.C. 102(e) as being anticipated by Varadaraj et al. (US 2003/0165722).

Varadaraj et al. ‘722 disclose Microemulsion compositions for fuel cell reformer start-up (Title), the microemulsion composition is a bicontinuous microemulsion [0004] and in another embodiment is a bicontinuous microemulsion [0006]. Varadaraj et al. ‘722 also disclose a method to prepare a bicontinuous microemulsion [0005]. While Varadaraj et al. ‘722 may use the

term “bicontinuous” and “microemulsion” inconsistently, the reference is showing the microemulsion is a bicontinuous microemulsion in EXAMPLE 2.

Second: Again, although applicants alleged the term “Thermodynamically stable” is referring to be stable for an unlimited period of time, the specification does not disclose the definition of the term nor does it show stability data. Applicants do not claim the size of the microemulsion. Applicants claim bicontinuous one-phase microemulsion which is “simultaneously comprises a continuous aqueous phase and a continuous hydrophobic phase” (See instant claim 1). Varadaraj ‘722 disclose a bicontinuous emulsion exhibits regions of water continuity and regions of hydrocarbon continuity. A bicontinuous emulsion is by character a micro-heterogeneous biphasic fluid [0016]. Varadaraj ‘722 disclose compositions showing spontaneous emulsification (e.g. thermodynamically stable) of water and hydrocarbon phases by surfactants (EXAMPLE 1). The bicontinuous microemulsion is stable for 72 hours (EXAMPLE 2). The bicontinuous emulsion can be characterized by optical microscope with the aid of dyes to color the water and hydrocarbon; and measurement of conductivity of the microemulsion. The emulsion also exhibit thermodynamic stability of cooled to -54°C to be solidified and when thawed or heated to +59°C the emulsion liquefied and retained their stability and bicontinuous nature (EXAMPLE 2).

16. Regarding Claims 1-9, 15 and 17-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Jakobs et al. applicants alleged Jakobs does not disclose thermodynamically stable, nanostructured and single-phase microemulsion of the rejected claims having one or more substances which can be employed as a fuel.

Applicants do not claim thermodynamically stable, nanostructured and single-phase microemulsion. Jakobs discloses thermodynamically stable, single-phase microemulsion which comprises n-decane, an hydrocarbon can be used as fuel (See paragraph 11 of previous Office Action).

17. In view of the forgoing and applicants did not point out deficiency of the art combination, the rejections under 35 USC § 103(a) as being obvious set forth in paragraphs 14-19 the previous Office Action hold.

#### ***Conclusion***

18. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chun-Cheng Wang whose telephone number is (571)270-5459. The examiner can normally be reached on Monday to Friday w/alternate Friday off.



If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on 571-272-1114. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Ling-Siu Choi/  
Primary Examiner, Art Unit 1796

/Chun-Cheng Wang/  
Examiner, Art Unit 1796

/CCW/